

GHGS

GESELLSCHAFT FÜR
HÜLSENLOSE GEWEHRSYSTEME MBH

HK HECKLER & KOCH
Dynamit Nobel

Weapon-Ammunition-System

CH
Rifle

with caseless ammunition

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The G11 Rifle with caseless ammunition sets new standards

- High hit probability even under combat conditions
- Quick readiness to fire
- Maximum reliability under all environmental conditions
- No impeding recoil effect on the shooter
- Low system weight
- Compact form
- No ejected cases
- Simple care and maintenance
- Short training times for users
- Small cartridge dimensions
- Low cartridge weight
- Large number of rounds can be carried

G 11 – the new weapon-ammunition-system with caseless ammunition for high hit probability.

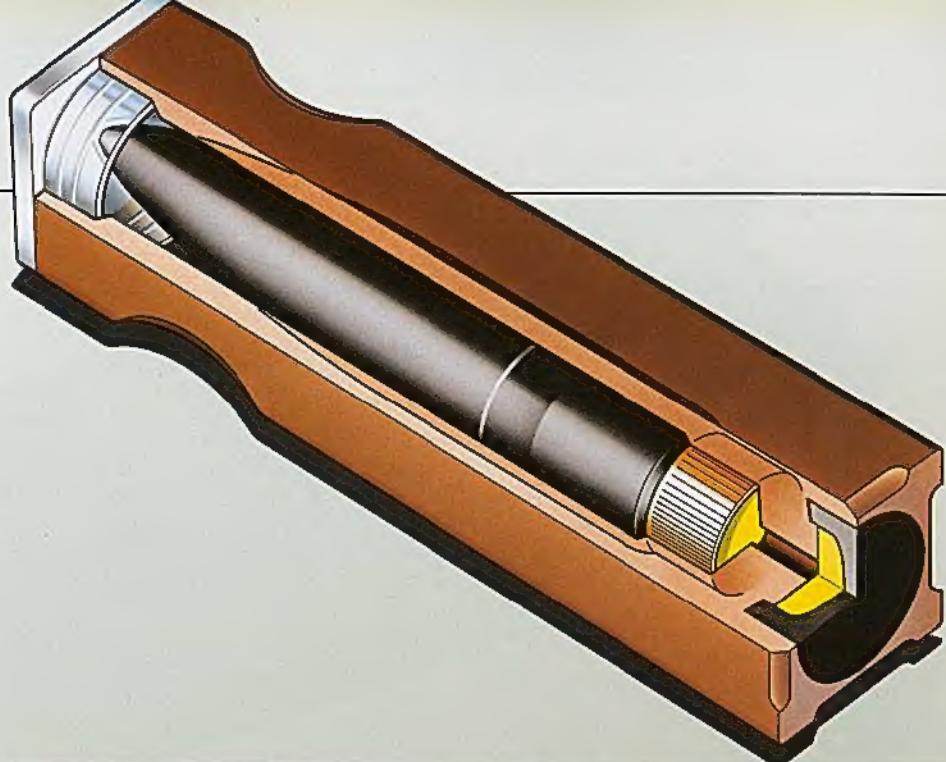
This new technology has, for the first time, provided a solution meeting the tough demands of a modern battlefield.



Dynamit Nobel

The caseless ammunition

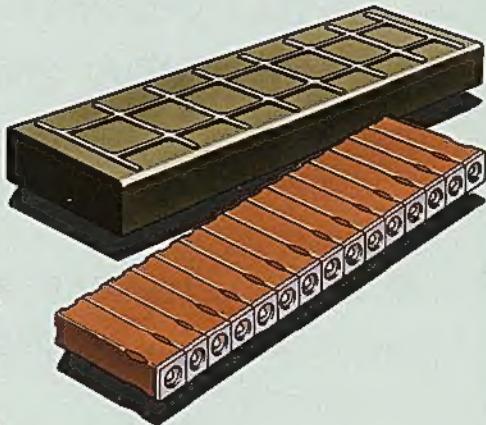
The propellant body of the caseless round has a quadratic cross-section, thus avoiding unused space in packages and magazines. In order to achieve optimum exterior and terminal ballistic performances, the projectile combines an extremely slim ogive shape with a high sectional density. The effect on soft targets is in accordance with international conventions. Even at short ranges the round does not fragment in the soft target medium. Penetration capability through steel and concrete is comparable with conventional ammunition of larger calibre. The penetration performance against hard targets is so high that a German steel helmet (NATO test standard) is penetrated with a soft core bullet at ranges up to 600 m.



Ammunition packaging

The water-tight ammunition pack doubles as the reloading unit. These reloading units are so small that they can be stowed almost anywhere. The caseless ammunition is absolutely safe. In the absence of a case no overpressure can be generated by exposure to fire or bullet impact.

The risk of cook-off is largely eliminated by the extremely high self-ignition temperature of the propellant.



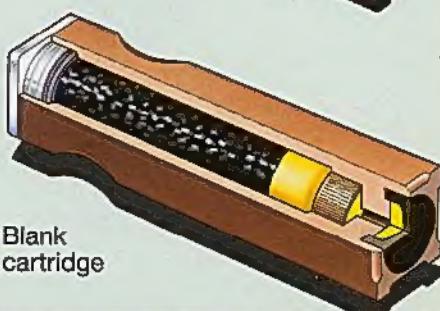
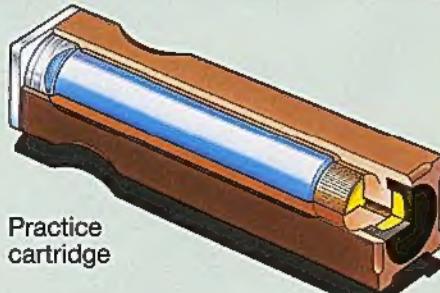
Ballistic table

Range (m) (yds.)	0	100 109.4	300 328.2	600 656.4
Approx. (m/s) (ft./sec.)	930 3051	840 2756	660 2166	450 1477
Time of flight (s)	0	0.11	0.38	0.94
Kinetic energy (J) approx. (ft.pds.)	1400 1039	1120 832	710 527	330 245
Trajectory elevation (m) (in.)	0	0.02 0.79	0.17 6.69	1.07 42.13
Crosswind drift (m) (in.) Wind velocity = 10 m/s 22 mph	0	0.06 2.36	0.6 23.6	2.8 110.2

Types of ammunition

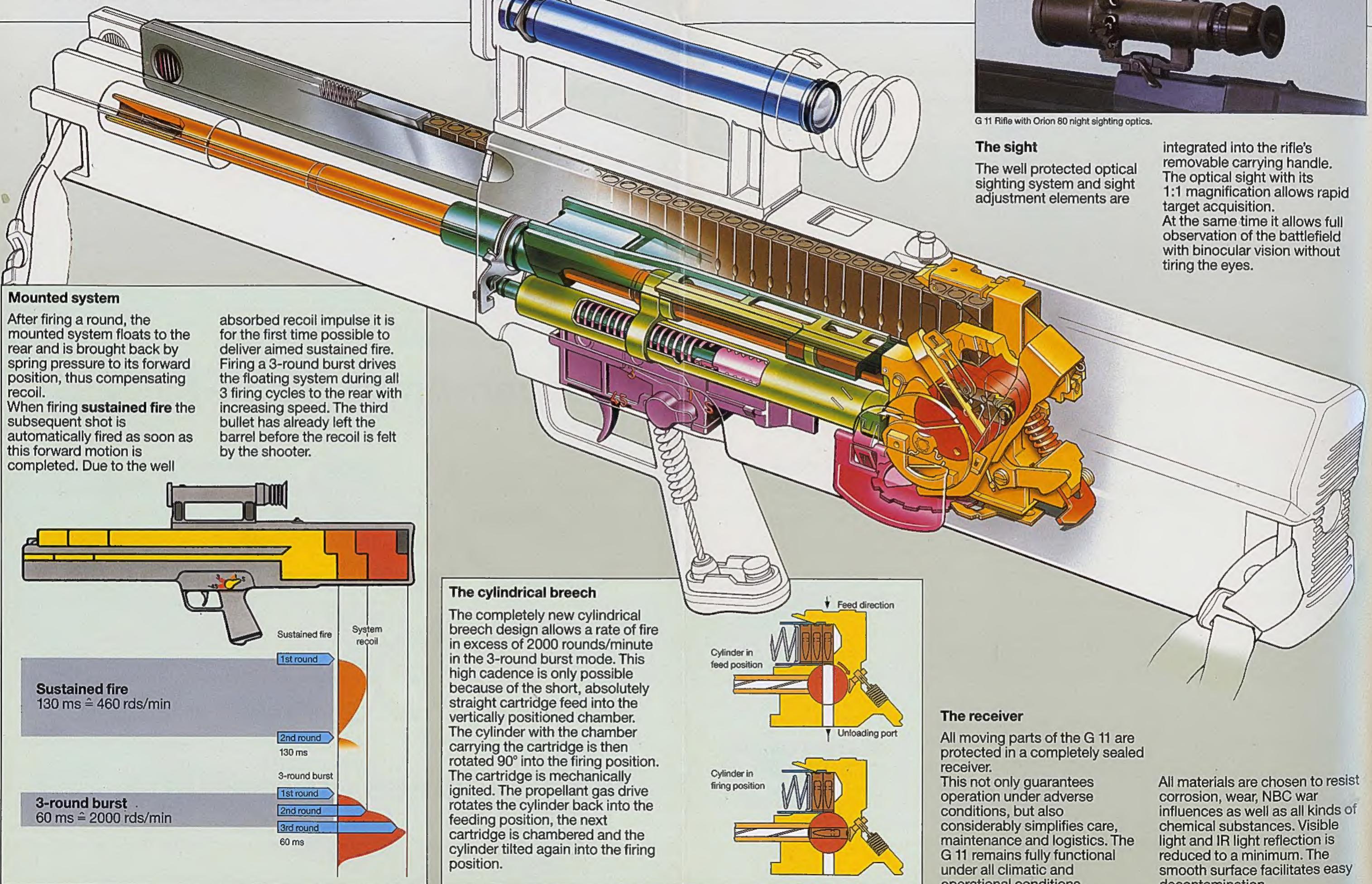
In addition to the combat cartridge with jacketed softcore bullet, the following types of ammunition are available:

- Combat cartridge with softcore tracer bullet
- Practice cartridge with plastic training bullet and plastic training tracer bullet
- Blank cartridge
- Dummy cartridge



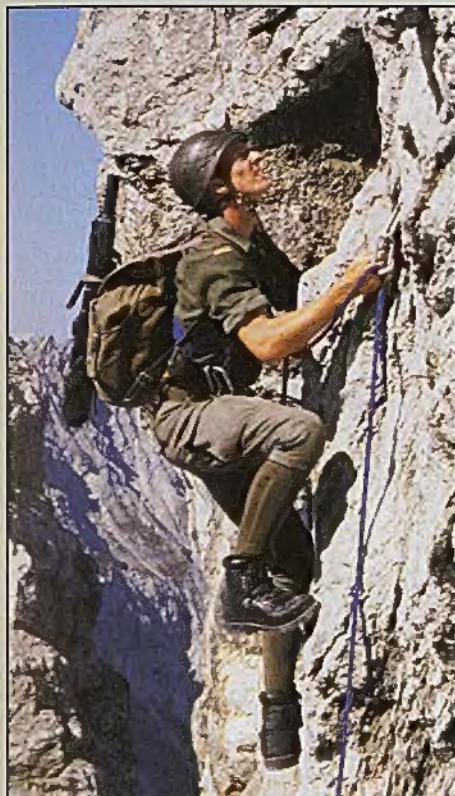
Technical features of the G 11

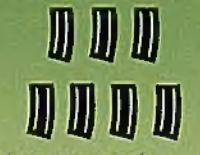
G 11

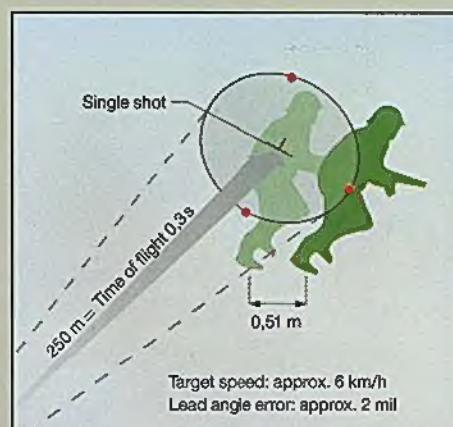
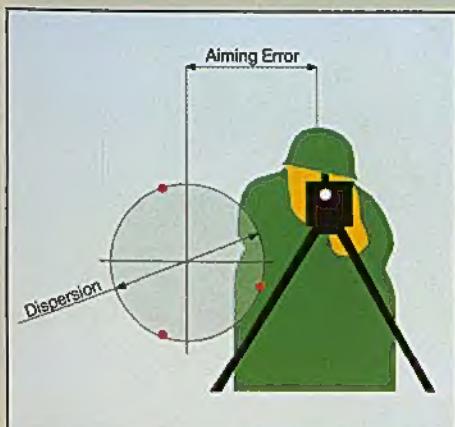




Combat analyses show that conventional rifles achieve only low hit rates. Physical fatigue, target motion, battle noises, enemy fire, etc. handicap the gunner when he tries to properly aim his rifle. The G 11 achieves its high hit probability by firing **automatically limited three-round bursts** with defined dispersion! This weapon dispersion does not depend upon the shooter or his training level.



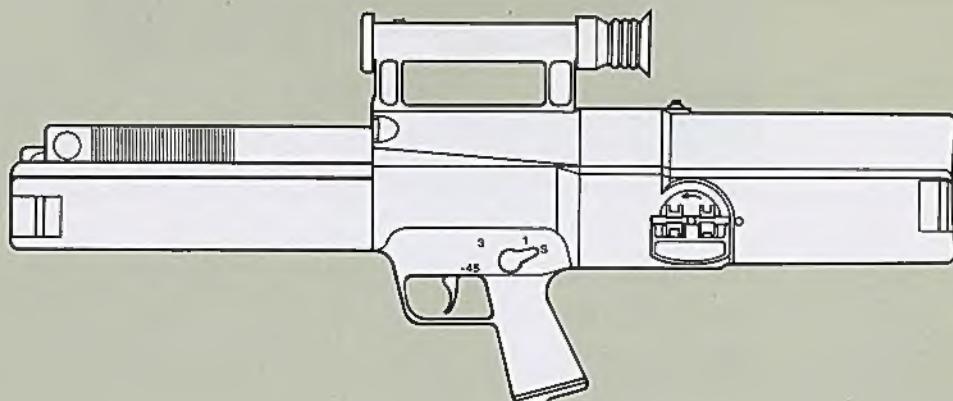
System comparison		
G 11 Calibre 4,73 mm  90 cartridges carried in magazines + 28 filled reloading units  makes a total of 510 cartridges available to the soldier	M16 A2 Calibre 5,56 mm  30 cartridges carried in magazine + 7 spare magazines  makes a total of 240 cartridges available to the soldier	G3 A3 Calibre 7,62 mm  20 cartridges carried in magazine + 4 spare magazines  makes a total of 100 cartridges available to the soldier
7,35 kg 16.2 lbs.	7,35 kg 16.2 lbs.	7,35 kg 16.2 lbs.



Hit probability

Despite aiming and lead angle errors the 3-round burst with its defined dispersion increases hit probability considerably and thus also reduces ammunition consumption.

Technical Data



Calibre	4.73 mm×33/0.185 in.	Modes of fire:
Type of ammunition	caseless	<ul style="list-style-type: none"> • Single fire • 3-round burst • Sustained fire
Length of weapon	750 mm/29.53 in.	Theoretical rates of fire:
Width of weapon	74 mm/ 2.92 in.	<ul style="list-style-type: none"> • 3-round burst
Height of weapon	295 mm/11.61 in.	<ul style="list-style-type: none"> • Sustained fire
Weight of weapon with 2 magazines loaded with 90 rounds	3.8 kg/8.38 lbs. 4.3 kg/9.48 lbs.	Max. shoulder pressure: <ul style="list-style-type: none"> • 3-round burst • Single and sustained fire
Weight of reloading unit including 15 rounds	0.11 kg/3.89 oz.	Magazine capacity
Barrel length, less chamber	540 mm/21.26 in.	Combat range
Rifling twist length (Right hand twist)	155 mm/ 6.10 in.	Steel helmet penetration
		Operating principle
		Breech principle
		> 2000 rounds/min. approx. 450 rounds/min.
		approx. 160 N approx. 110 N
		45 rounds
		> 300 m /328 yds. up to 600 m/656 yds.
		Gas-operated, cartridge in chamber
		Cylindrical drum

Caseless ammunition



Length	33 mm/1.29 in.	Ignition	mechanical
Cross-section	8 × 8 mm/0.32 in.	Mean gas pressure	3850 bar
Total weight	5.20 g/0.18 oz.	Muzzle velocity V_0	approx. 930 m/sec.
Projectile weight	3.25 g/0.12 oz.		3051 ft./sec.

Optical sight



Magnification	1:1
Entry pupil	10.0 mm/0.43 in.
Exit pupil	9.5 mm/0.37 in.
Pupil clearance	46.0 mm/1.81 in.
Field of view	200 mil
Eyepiece adjustment	– 6 dpt
Light transmission	> 85 %

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Subject to technical modifications